THE COVER PAGE

TITLE OF ASSIGNMENT:

Develop a typical organizational structure of building projects in Ethiopia to at least four levels, with a clear description of responsibilities at each position and again
Discuss project management, construction project management, and construction technology and management

SUBJECT/COURSE:PROJECT MANAGEMENT & LEADERSHIP

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DATE SUBMITTED: 02/04/2014 E.C

DECLARATION:

I certify that this assignment is entirely my own work, except where I have given fully documented references to the work of others, and that the material in this assignment has not previously been submitted for assessment in any formal course of study.

SIGNATURE:_____

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INTRODUCTION

This assignment is a task that has been given to students as individual and used to be as one party of student's self-study. It is required to develop a typical organizational structure of building projects in Ethiopia to at least four levels, with a clear description of responsibilities at each position and again to discuss project management, construction project management, and construction technology and management**.**

Developing typical organizational structure involves defining the framework around which the organization operates. By defining how the organization works, student more effectively choose leaders/managers and make effective decisions. A clearly established structure helps employees/workers resolve disputes and work together to achieve strategic goals. Discussing the above mentioned topics is writing about them in detail, taking into account different issues or ideas.

MAIN BODY

Our country Ethiopia is undertaking massive infrastructural expansions. Multistory buildings projects are being, or set to be constructed here and there. Efforts are being made to fulfill the infrastructural needs of country. Whilst private building project constructions and investments on various projects abound in Ethiopia currently, huge amount of the Government budget is also allocated for this massive public projects. In carrying out such massive projects, the effective organizational structure is best to be developed. In some organizations the organizational structure of building projects is not clear to describe the responsibilities at each levels of position which may bring various work problems and disputes. In resolving the work problems and disputes, the project developer chooses to develop organizational structure in trying to the balance in protecting the client interest, the professional team interest. To develop an effective organizational structure, it is necessary to write down who does what, otherwise construction managers lose sight of the whole picture and jobs are forgotten, or duplicated. The purpose of a construction organization's structure is to ensure that the work. Activities are allocated rationally, that there are effective links between roles and that work force are properly supervised and co-ordinated. It facilitates control by creating a communication network of instructions and feedback. When designing or improving a construction organization structure, project managers should ensure that

- Task and responsibilities are allocated to work groups and individuals, which should include direction over work methods and resources.
- Individuals are grouped into sections or units and should be integrated into the skeleton.
- Formal relationships are set up, spans of management specified, and the number of managerial levels decided.
- Jobs and activities are clearly defined, but are not too rigid.
- Authority is delegated and procedures are set up for monitoring its use.
- Communication systems are created, improving information flow and co - ordination system.
- Procedures are developed for performance measurement and reward policy.

Structural weakness in construction/building project organizations could lead to several problems such as;

- Too much paperwork,
- Employees are overloaded with work,
- Poor or late decisions,
- Inability to cope with change,
- Low morale,
- Industrial conflict,
- Increased cost and lack of competitiveness

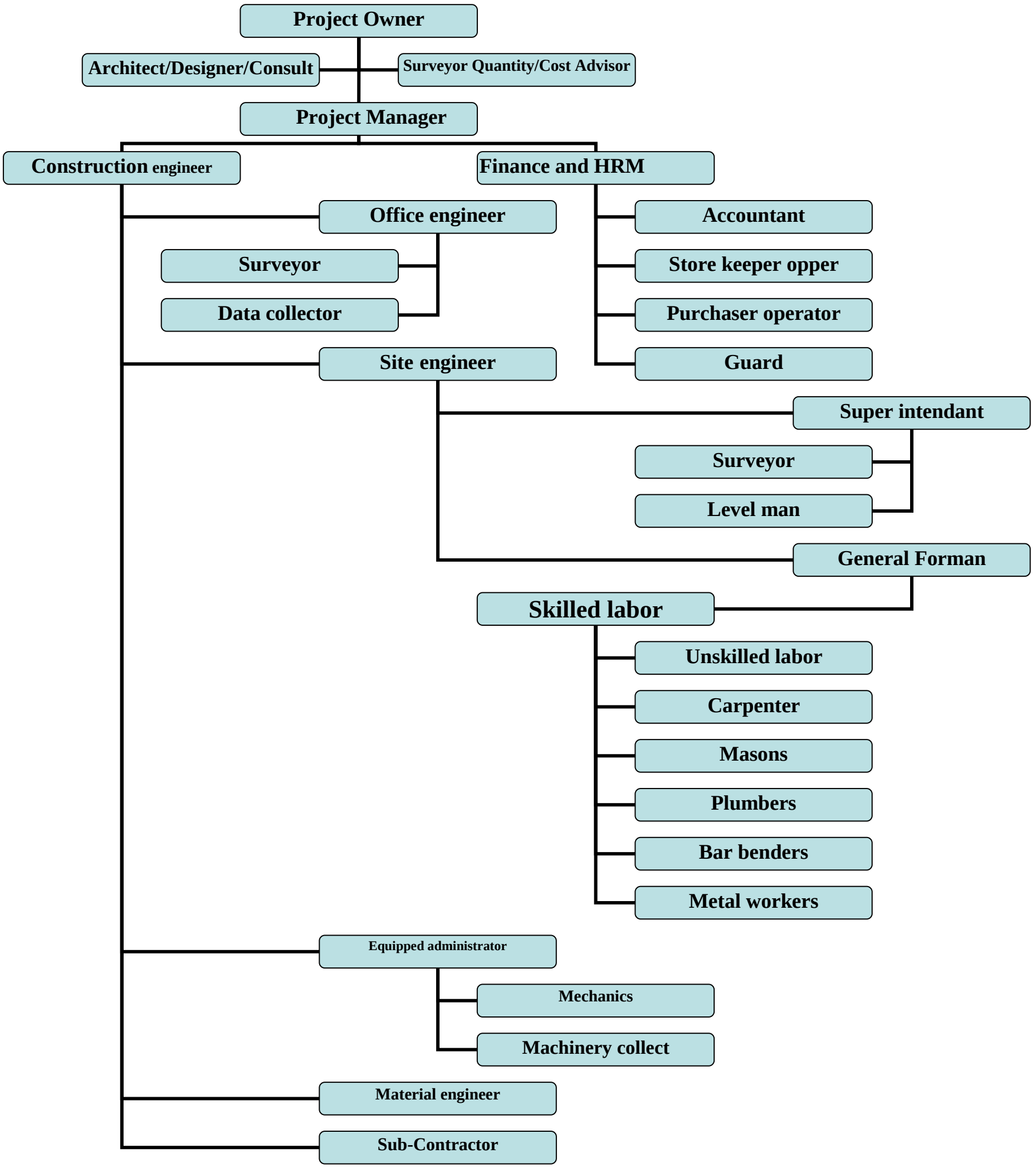
In order to design the best organizational structure for a particular project, it should be focused on the design of project activities and on organizational design. The design of project activities starts by trying to break all activities down into simple manipulative elements. These elements should ergonomically be recombined in order to maximize the efficiency with which individuals can perform them. The number of employees at each level in the organization hierarchy should be determined by scientific. The number of first line works in a construction/building project organization is determined by the technology that is to be used, and the number for supervisors needed can then be accordingly recommended. It has been found that an appropriate span of control in the construction firm hierarchy is one supervisor to five or six subordinates. The choices of organizational structure which may be appropriate for construction firms are many and depend on several factors such as:

- The size of the firm,
- Its geographical location,
- The type of work being done, and
- The managerial and technical skills available.

Most organizations, however, are hierarchical. They are made up of a series of tiers, each having authority over the levels beneath it. The number of levels in the hierarchy may vary from two in a small building firm to a dozen or more in some large construction organizations. The size of the firm largely dictates the number of tiers/levels, although management may decide to widen spans of control to limit the number of levels. Organization charts/diagrams tend to /have habit of over simplify relationships as there is a limit to the amount of information they can show. In fact, they tend to emphasize vertical relationships in the organization, rather than horizontal. They stress the formal links, rather than the informal. They are static and may quickly become out of date. Therefore, organizations need to be flexible, as flexibility is a vital dimension in

project management. The ability to adapt to change may be the most important factor affecting the success and survival of many organizations. The most frequently organizational forms which are generally used for managing construction/building projects are : functional, project, and matrix organization. As it is shown on the following diagram the one I select is project organizational structu

1.1 Typical Organizational Structure for Building Project in Ethiopia



Clear Responsibilities of typical organizational structure

Responsibilities of Project Owner

- Future oversight,
- ongoing maintenance, and
- Communication regarding of the delivered product.

Responsibilities of a Project Manager

- Plan and Develop the Project Idea. Every project starts as an idea.
- Create and Lead Your Dream Team.
- Monitor Project Progress and Set Deadlines.
- Solve Issues That Arise.
- Manage the Money.
- Ensure Stakeholder Satisfaction.
- Evaluate Project Performance.

Responsibility of architect

- Provide counseling service for client
- Drag designs for construction projects
- Design building plans that fits all construction requirement
- Planning and developing design.
- Must be equipped with technological know how
- Knowing the various housing laws and incorporating them into the construction works
- Suggesting and various contractors for the construction project
- Working hand in hand with other professional to get the job done
- Bringing artistic and creative elements to the construction
- Determine the features of the construction site to understand its limitations and potentials.
- Help to ascertain the cost estimation or budget for the construction
- Supervisor role
- Help clients to obtain a permit from the government

Responsibility of surveyor quantity

- Conducting feasibility studies to estimate materials, time and labour costs
- Preparing, negotiating and analysing costs for tenders and contracts
- Coordination of work effort
- Advising on a range of legal and contractual issues
- Valuing completed work and arranging for payments

Responsibility of construction engineer

- Maintain compliance with the safety-assurance plan so that work is accomplished in an environmentally sound manner using safe work practices;
- Conduct safety observations and conversations (SOCs) to help achieve a zero-incident culture;
- Lead the “authorization to proceed” process for contractors;
- Participate in engineering package reviews during the select, define and execute phases of projects and provide constructive input to the design team;
- Support the off-site project leaders through the stage-gated process of projects;
- Support the off-site project leader and design groups in the development of functional systemization of projects for guidance on certification (GOC);
- Encourage construction and operations personnel to review design packages early in the course of projects to eliminate rework and optimize construction;

- Anticipate and resolve problems encountered in the field to eliminate costly rework or retesting;
- Ensure work is performed per plans and specifications via coordination with the Quality Assurance (QA) and Functional Checkout (FCO) groups;
- Coordinate with clients to ensure proposed construction and work methods are clearly understood and accepted and ensure agreement on environmental and safety work plans for permitting;
- Provide input into the scheduling of projects to meet the client's required deadline and maintain construction resources to acceptable levels;
- Monitor progress to ensure scheduling milestones are understood and are being met;
- Coordinate between the construction contractor and the project lead to resolve field discrepancies in design packages and material delays;
- Ensure equipment and manpower resources are being used efficiently;
- Review contractor work performance and project status updates;
- Ensure all process safety management (PSM) and management of change (MOC) requirements regarding field design modifications and scope changes are met by forwarding appropriate documentation to the Greater Prudhoe Bay (GPB) Project Leader for processing;
- Participate in the MOC control process;
- Administer project's management-of-no-change process for scope, schedule and budget impacts for client approval;
- Network with various client departments to ensure all appropriate permits and regulations are followed

Responsibility of HRM

- Job analysis and staffing,
- Organization and utilization of work force,
- Measurement and appraisal of work force performance,
- Implementation of reward systems for employees,
- Professional development of workers, and
- Maintenance of work force.

Responsibility of finance manager

- Accurately track income and expenses
- Oversee vendor payments and payroll processing
- Prepare and review financial statements
- Monitor key performance indicators and financial trends
- Develop company budget
- Account and cost reconciliation
- Develop and maintain internal controls to ensure compliance
- Manage liquidity and cash flow
- Prevent theft and fraud
- Perform accounting closeout procedures on a monthly, quarterly, and yearly basis

Responsibility of Office Engineer

- Coordinate between consultants, external agencies, contractors, property owners and other utility services for assigned projects.
- Supervise office staff for all administrative works that include processing and reviewing of progress payments for contractors.
- Coordinate, review and assess contract submittals.
- Review and process construction for project design submittals and ensure forms as per existing standards.
- Administer contractor's work and ensure compliance with submitted contract documents.
- Inspect work sites, monitor project budget and schedule and check project plans and drawings to verify authenticity of office plans.
- Analyze and recommend changes to contracts and prepare necessary amendments in contract document.
- Manage and submit all reviewed contract document to contract administrators for further approval.
- Prepare correspondence and documents related to assigned projects and facilitate in internal RTD scanning and archiving in line with closet procedure.
- Provide assistance to project manager and supervise office engineering construction.

- Perform inspection and prepare documents for entire contract work projects.
- Ensure all contract works in compliance with contract documents.
- Prepare project records with details such as field progress, field conditions, equipment use and corrective actions.
- Prepare monthly report on progress of assigned project with assistance of schedules, costs spreadsheets and perform analysis on same.
- Ensure bid packets contain relevant engineering drawings, designs and specification for of bid document.

Responsibility of Site Engineer

- Interpretation of Drawing
- Allotting Work to Labors
- Supervision of Construction Work
- Preparing Schedule of Material Used and Available
- Preparing Work Chart Schedule
- Checking Steel Work of Slab, Beam, & Column Before Concreting
- Checking & Arranging Equipment Before Concreting Work Starts
- Supervision Of The Curing Process
- Keeping Note of Each and Every Casting Work

Responsibility of subcontractor

- Attend a pre-construction safety meeting to understand the project's safety requirements
- Provide appropriate methods, equipment, devices and material to assure a safe workplace
- Provide the necessary personal protective equipment to their employees needed for any specific task and have that equipment on site and ready for daily use
- Stop work when a hazard or potential hazard exists or in the event that conditions are such that there is immediate danger to life, limb or property
- Notify all other contractors and subcontractors when your employees' actions could adversely affect the health and safety of employees of other companies
- Ensure that all work activity for the day ahead has been reviewed for safety concerns and that all safety requirements will be met
- Instruct each of their employees on the job site in the recognition and avoidance of unsafe acts and/or conditions applicable to their work environment to control or eliminate injury or illness, and will enforce all applicable safety rules on their employees
- Maintain their equipment and vehicles with regularly scheduled maintenance and repairs to keep their equipment in safe operating condition
- The subcontractor must provide all personal protective equipment to its employees in all operations where there is exposure to hazardous condition
- All personnel, supervisors, craft, salespersons, visitors, etc. shall wear hard hats when on the construction site
- Safety harness and lanyards will be made available by the subcontractor to their employees to prevent falls when working over (6) six-feet or more when no other approved fall protection is provided. Safety belts will not be used for fall protection 16. Approved respirators will be used where required
- Safety glasses or approved eye protection with side shields will be worn by all personnel as hazards dictate (i.e., hammering, chipping, welding, grinding, working in a dusty environment, or working in any operation where an eye injury may result

Responsibility of Store Keeper

- Ensuring the maintenance of stocks,
- Ensuring operation of an accounting system,
- Ensuring maintenance of inventory records,
- Ensuring preparation of material orders, and receiving, reviewing, and storing of supplies disbursed on job orders and material transfers.

Responsibility of Purchase Operator

- Identifying requirements for goods, materials and services.
- Identifying reliable suppliers.
- Price negotiations.
- Comparison of delivery terms.

- Establishing order quantities.
- Writing requests for bids and awarding supply contracts.
- Coordinating delivery with the warehouse against storage capacities.

Responsibility of Guard

- Patrol for Intruders.
- Run Audits Of Site Equipment.
- Prevent Theft And Vandalism.
- Survey Those Coming In And Out Of The Site. ...
- Monitor Video Surveillance.
- Ensure Safety of Employees and Project.

Responsibility of General Foreman

- Operate and promote safe working on site
- Ensure the completion of works on time and within budget
- Equipment and materials management
- General

Responsibility of Skilled Labor

- Moving materials to the worksite and ensuring all tools, machinery, and other equipment are safely set up.
- Operating equipment like drills, pneumatic hammers, shovels, pikes, and other heavy machinery.
- Assisting with various electrical and plumbing installation procedures.
- Obeying health and safety codes, as well as the company's principles.
- Removing hazardous materials from sites.
- Spreading gravel, asphalt, and other materials over surfaces.
- Performing site and equipment inspections.
- Attending meetings and workshops.
- Completing on-the-job training.
- Ensuring tasks are completed to deadlines.

Responsibility of Equipment Administrator

- Ensure that each team has adequate equipment during the season.
- Organize the distribution of equipment to coaches before the season commences
- Ensure the equipment bags and any first aid kits are kept fully stocked.
- Order and purchase additional equipment for the teams in consultation with the President, Treasurer and Secretary.
- Maintain an inventory management system and undertake a stock take at the conclusion of each Competition season.
- Attend scheduled committee meetings on a regular basis and provide an inventory holding report for the committee.
- If for any reason the Equipment Manager is unable to attend a committee meeting a report should be submitted to the Secretary in writing prior to the scheduled meeting.

Responsibility of Material Engineer

- Conduct and ensure in-depth Fracture Analysis and Technical Reports.
- Extend hands-on materials engineering support to design, quality and manufacturing staff.
- Characterize materials to resolve failure and product enhancement.
- Handle Audit Surveys and coordinate with suppliers to enhance product and service quality.
- Maintain cycle time objective within responsibility areas.
- Specify materials and process and propose new or revise specifications.
- Engage as Specification Review Committee member.
- Perform material and process projects.
- Address materials and process concerns from suppliers, manufacturing and customers.
- Offer material information and data to Engineering.

- Update material and specify process.
- Analyze materials on manufacturing, product, supplier and customer concerns.
- Test at external sources.
- Interpret results, write reports and communicate with engineers.
- Design workable project plans and timelines to reach goal.

Responsibility of Metal Worker

- Performing machining operations on metal work pieces based on mechanical designs
- Programming, setting and operating machine tools
- Loading and unloading work pieces
- Ensuring products meet production specifications
- Finishing and assembling metal components
- Carrying out maintenance of machine tools
- Providing apprentices and junior metal workers with training and support in the use of machine tools

Responsibility of Plumber

- Assemble, install, maintain, and pressure test all pipes, fittings, and fixtures of heating, water, drainage, sprinkler, and gas systems according to specifications and plumbing codes.
- Determine sources of plumbing malfunctions and complete repairs as indicated or according to work orders.
- Install and repair pipes, fittings, valves, fixtures, and plumbing system equipment, including sinks, commodes, water heaters, water softeners,
- Repair dishwashers and kitchen equipment that incorporate gas or water consumption.
- Receive and complete work orders. 6. Select material and hardware and make time and materials estimates.
- Maintain accurate records on material and labor used.
- Maintain inventory of district-owned tools, equipment, and materials. 9. Inspect jobs upon completion and ensure areas are clean.
- Read blueprints and drawings to understand or plan the layout of plumbing, waste disposal and water supply systems
- Cut, assemble and install pipes and tubes with attention to existing infrastructure (e.g. electrical wiring)
- Install and maintain water supply systems
- Locate and repair issues with water supply lines (e.g. leaks)
- Repair or replace broken drainage lines, clogged drains, faucets etc.
- Repair domestic appliances (e.g. washing machines) and fixtures (e.g. sinks) etc.
- Install and maintain gas and liquid heating systems (air-conditioning units, radiators etc.)
- Install waste disposal and sanitary systems with well-functioning systems

Responsibility of Carpenter

- Read blueprints, drawings and sketches to fully grasp requirements
- Take measurements and calculate the size and amount of material needed
- Cut, shape and smooth lumber and other material (e.g. fiberglass) according to measurements
- Build window frames, doors, staircases and frame buildings by using raw materials or pre-constructed items
- Lay out floorings, roofing or drywalls ensuring they are leveled and compatible
- Carve and assemble furniture, cabinets, shelves and other items and install them where designated
- Inspect places and conduct repairs or maintenance
- Build scaffolding and other construction structures

Masons Responsibility

- Maintaining tools and workspaces.
- Cutting, shaping and dressing materials.
- Lifting, carrying and placing prepared blocks.
- Reading and following technical drawings.
- Training apprentices.

- Mixing cement and mortar.
- Restoring old and worn masonry.

Discussion of Project, Project management, construction project management and Construction Technology and management

- **Project**

A project consists of a temporary endeavor undertaken to create a unique product, services or results. Project is the sequence of tasks/activities to achieve the pre-set goal and objectives in a given time frame. Temporary means that every project has a definite beginning and definite end. Unique means that a product or services is different in some distinguishing way from all other products or services.

A project is defined as a sequence of tasks that must be completed to attain a certain outcome. According to the Project Management Institute, the term Project refers to" to any temporary endeavor with a definite beginning and end". Depending on its complexity, it can be managed by a single person or hundreds. A project is a set of interdependent tasks that have a common goal. A project can be defined as a series of activities and tasks that consume resources and have a specific objective to be completed with certain specifications, defined start and finish dates, and financial limitations.

- **Project management**

Project Management is an application of knowledge, skills, tools and techniques to project activities to meet project requirements. Project Management is discipline of organizing and managing resources in such a way that project is completed within defined scope, time and cost' Project management involves planning, controlling and completing the work of a team to achieve specific goals in a specified time. Managing projects effectively and consistently is one of the most important functions for anyone generating demand for their company. To be a great project manager, it is important to get these eight things right. Leadership, Team Chemistry, Team Motivation, Team Skill Set, Project Scope, Project Budget, Project Timeline, Project Goals

Project management is the art of planning, controlling and executing a project in a way that ensures successful delivery of the desired outcome. It is widely used in organizations as a complex of tools for delivering strategic goals and objectives. Project management is simply put, the process and activity of planning, organizing, motivating and controlling procedures, protocols and resources to achieve a specific goal. Without project management, it would be extremely difficult for goals to be met.

- **Construction project management**

Construction project management has evolved from business project management which is defined as the planning, organizing, staffing, coordinating, directing, and controlling of company resources for a relatively short-term objective that has been established to complete specific goals and objectives. Construction Project Management is the management towards coordinating different workmen, availing the required machinery and material at the right time, executing the project economically and successfully, and controlling over the quality, time and sequence of flow of construction in a well-planned and organized manner. Construction project management could be defined as the direction, regulation, and supervision of a project from early development to completion. The ultimate goal of construction project management is the full satisfaction of the client's demands for a viable project both in terms of functionality and budget. There is a wide range of construction project types, such as commercial, residential, industrial and heavy civil Construction project management is defined as the process of applying project management principles in managing construction projects leading to their successful execution.

- **Construction technology and management**

It may be defined as the overall control of the total management process to optimize the three attributes of the process: **Quality, Schedule and Cost.** Construction Technology and management is a **professional engineering discipline that deals with the construction, and maintenance of the physical and naturally built environment**, including works such as roads, bridges, canals, dams, airports, sewerage systems, pipelines, and railways. It is a professional discipline that **deals with the designing, planning, construction and management of infrastructures** such as roads, tunnels, bridges, airports, railroads, facilities [disambiguation needed], buildings, dams, utilities and other projects.

Comparison:

	Project management	**Construction project management**
Advantage	• A particular project is handled by separate project manager. • It helps the company in achieving efficiency. • It helps the company in developing managerial qualities • Project management creates a system whereby workflow is measured and accounted. • Managing projects from start to finish can help control project costs. • Effective project managers make determinations about appropriate staffing and team formation in the early stages of project planning	• The implementation of these management activities turns the planning, design and construction process into one which generates value and A maximizes control • improves the concern between the contractor and the owner • The implementation of construction management improved the cost control and provides greater reliability and creativity
Disadvantage	• Sometimes it leads to overlapping of authority and responsibility between the top management and project management. • It may be possible that there is no competent staff to carry the responsibility of project manager and if management selects incompetent staff then project will be a failure leading to losses for the company. • Overhead. Project Management presents 3 types of overhead: cost overhead, communication overhead, and time overhead. • Obsession: Methodology obsession and process obsession. • Lackluster Creativity. Strict project management can discourage outside the box thinking and hamper creative efforts	• significant portions of the total services for which the Construction Manager is remunerated are not subject to competitive bidding • Alternatively, under CM as Constructor, and especially when no fast-tracking is intended, these concerns can be mitigated by establishing a guaranteed maximum price, or by converting the Construction Management services contract to a stipulated price construction contract prior to the commencement of construction.

	Project management	**Construction project management**
Similarity	• Will both ensure all aspects of construction are executed for the owner in a safe and efficient manner, all on-time and on-budget? • Both will involve the same three parties: 1. The client 2. The consultant 3. The contractor • Both involve consultants who represent the client. Likewise, all communication between client and contractor flows through the consultants. General contractors (or perhaps a subcontractor, if necessary) will be the ones performing the construction work. The consultants are the ones responsible for developing and implementing construction documents, observing the work being performed, managing inspections, and reviewing any document and/or change-orders submitted by either party. • As far as qualifications are concerned, both positions (that of a construction project manager and a construction manager working in building trades) will likely require a Bachelor's Degree–although this is more of a suggestion rather than a requirement.	

Difference	• Brings in expertise that deals with the overall project from beginning to end–including project budgeting, designers, and consultants (engineers, legal team, information technology, etc.). • There are contractual relationships developed between project managers, the client, and the contractor. • Project manager and a contractor have no formal contract between them. • They both contract directly with the client, and the contractor is paid by the client. • In selecting the contractor, a project manager will let the client select the contractor. • When it comes to liability, the project manager is liable for the design process work while the contractor is liable for the construction work. If a client makes any changes without approval from the PM, the client is the one that assumes responsibility. This means the client generally is dealing with two entities simultaneously	• manages the specific trades in the field (such as electrical work, plumbing, mechanical, and carpentry) • For the construction manager, the contractor has no direct contract with them, and also no agreement with the client. • The contractor is paid by the construction manager. • The construction manager has greater responsibility for selecting the contractor but usually does so with the agreement of the client. • The construction manager is responsible for both the design and construction work (if there is no project manager involved). • Meanwhile, the construction manager is responsible for both the design and construction work (if there is no project manager involved). The contractor is responsible to the construction manager for the work performed. This allows the client to only deal with one entity (the CM).

CONCLUSION or RECOMMENDATION

In conclusion as it is study well and discussed in detail this assignment comes to a product which may bring important concept on project, project management, construction project management and construction technology management. And again it involves development of typical organizational structure which can be used usually for building project constructed in Ethiopia. Therefore I give recommendation that the developed typical organization structure in this assignment is helpful in building project organization.

REFERENCES

All materials used in this assignment are taken from internet and handout given to students.